



Addressing the Energy-Water Nexus:

A BLUEPRINT FOR ACTION and Policy Agenda



EXECUTIVE SUMMARY
MAY 2011

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Executive Summary

In simple terms, every drop of water saved in the U.S. saves energy, and every unit of energy saved saves water. That overlap has come to be known as the “energy-water nexus.”

For the past 30 years, strategies to conserve energy and increase the efficiency of energy use have been widely pursued. Similar efforts in the conservation and efficient use of water have occurred over the past 20-plus years. However, the two communities have historically not worked together in a coherent, collaborative manner, and instead generally created separate but parallel efforts. These separate activities could realize significant benefits from coordination.

Recognizing this need for collaborative actions, the American Council for an Energy-Efficient Economy (ACEEE) and the Alliance for Water Efficiency (AWE) secured a grant from the Turner Foundation to bring these two communities together to establish a blueprint for future joint efforts and to envision a policy agenda that could drive actions at the federal, state, local, and watershed levels.

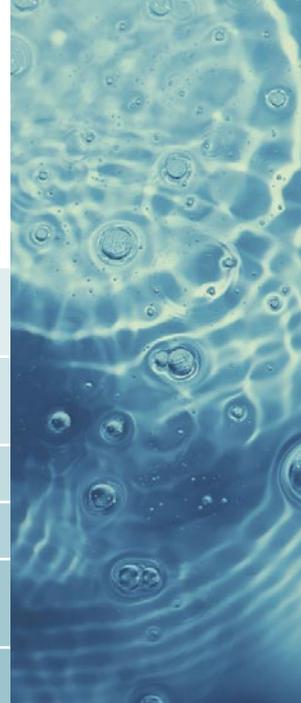
This blueprint addresses three broad elements: policy/codes, research, and programs. In developing it, ACEEE and AWE have analyzed and consolidated contributions from approximately fifty individuals, many of whom participated in a full-day workshop in December 2010. The goal of this blueprint and policy agenda is to provide a framework for collaborative action, funding, and policy development.

The blueprint further contains eight broad thematic elements, each including a number of action strategies, all of which will require complex collaborations among funding sources, advocates and nonprofit organizations, government agencies at every level, trade associations, energy and water utilities, consumer groups, business, regulatory agencies, universities, national laboratories, policymakers, and the U.S. Congress.

By setting bold, innovative new directions that can begin immediately, the developers hope that this blueprint will change the way water and energy are used, measured, and managed, and change the relationships and actions of stakeholders, creating new, more active and visionary coalitions.

Thematic Elements of the Blueprint for Action

1. Increase the level of collaboration between the water and energy communities in planning and implementing programs.
2. Achieve a deeper understanding of the energy embedded in water and the water embedded in energy.
3. Learn from and replicate best practice integrated energy-water efficiency programs.
4. Integrate water into energy research efforts and vice versa.
5. Separate water utility revenues from unit sales, and consider regulatory structures that provide an incentive for investing in end-use water and energy efficiency.
6. Leverage existing and upcoming voluntary standards that address the energy-water nexus.
7. Implement codes and mandatory standards that address the energy-water nexus.
8. Pursue education and awareness opportunities for various audiences and stakeholders.



The Policy Agenda

1. Encourage the implementation of regulatory structures and incentives that reward water and energy efficiency, including by establishing mechanisms to recognize the benefits of water and energy savings by programs, and consider setting water-saving targets for utilities, just as many states have energy-saving targets for utilities.
2. Encourage the Department of Energy to implement appliance and equipment standards on water-using appliances and equipment, and provide appropriate credit for direct and indirect water impacts in setting performance standards.
3. Develop, enact, and implement building codes that recognize water and energy efficiency.
4. Develop and propose specific energy-water elements to add to existing federal legislation, such as the *Water Resources Development Act*, the *Federal Water Pollution Control Act*, the *Safe Drinking Water Act*, the *Energy Policy and Conservation Act*, and the *National Energy Conservation Policy Act*.
5. Develop and propose tax incentives for water and energy efficiency, preferably performance-based.
6. Direct and provide resources to such federal bodies as the Energy Information Administration, national laboratories, the Federal Energy Regulatory Commission, the Census Bureau, the Department of Interior, and the Environmental Protection Agency to collect water and energy end-use data from across sectors and to extend existing and future energy policy analyses to include water impacts where possible.
7. Identify a platform enabling energy and water regulatory and governance bodies to communicate with each other readily.
8. Encourage increased collaboration among federal, state, and local agencies in such areas as the integrating of water and energy efficiency through the use of grant funding, research, regulation, and technical assistance from the Department of Energy, the Environmental Protection Agency, the Department of Agriculture, and the National Oceanic and Atmospheric Administration.
9. Require coordination between energy and water regulatory authorities when considering siting of new power plants or significantly expanding existing power plants.





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Moving Forward

This blueprint represents an important first step in a long-term dynamic process. It is intended to be informative and direction setting. ACEEE and AWE recommend that the following initial priorities be implemented over the next year:

- Work to incorporate cost-effective energy and water efficiency measures into building codes, equipment standards and tax credits (policy items 2, 3, and 5). Work on tax incentives, codes, and standards is now taking place, and it is important that energy and water efficiency both be integral parts of these discussions.
- Survey existing programs that clearly address the energy-water nexus to identify examples of best practice programs. Identify the elements contributing to success of these programs so they can be replicated.
- Prepare a report for policymakers and water utilities that identifies lessons learned from energy experiences, addresses rate-related barriers to efficiency program implementation, and helps to clarify utility disincentives for encouraging efficiency.
- Develop a baseline of total energy use by water and wastewater utilities and water use by electric utilities, which would include raw water transmission and treatment; treated water distribution; and wastewater collection, treatment, and disposal energies, not just energy use at the plant level.
- Establish ongoing water and energy working groups to increase cooperation among energy and water agencies, utilities, and communities, to share best practices and recognize the nexus as the first step toward working together.



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